

AMENDMENTS TO THE CLAIMS

This listing replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A targeted gene delivery method that comprises bringing bispecific ligands, which have a specificity for a mammalian cell surface receptor that is capable of activating receptor-mediated endocytosis, into contact with (a) intact, bacterially derived minicells that are approximately 400 nm in diameter, that are free of contamination from membrane blebs 200 nm or less in size, and that contain a plurality of therapeutic nucleic acid sequences, each operably linked to a promoter, and (b) non-phagocytic mammalian cells, such that (i) said bispecific ligands cause said minicells to bind to said mammalian cells, (ii) said minicells are engulfed by said mammalian cells, are degraded in late endosomes, and release therapeutic nucleic acid sequences, and (iii) therapeutic nucleic acid sequences escape from said late endosomes and are transported to mammalian cellular nuclei, permitting expression of therapeutic nucleic acid sequences.

2. (Cancelled)

3. (Previously Presented) The method according to claim 1, wherein said bispecific ligands further have a specificity for a surface structure on said minicells.

4. (Previously Presented) The method according to claim 3, wherein said first arm and said second arm are monospecific.

5. (Previously Presented) The method according to claim 3, wherein said first arm and said second arm are multivalent.

6. (Previously presented) The method according to claim 3, wherein said minicell surface structure is an O-polysaccharide component of a lipopolysaccharide on said minicell surface.

7. (Previously presented) The method according to claim 3, wherein said minicell surface structure is a member of the group consisting of outer membrane proteins, pili, fimbriae, flagella, and cell-surface exposed carbohydrates.

8. (Cancelled)

9. (Previously presented) The method according to claim 1, wherein said bispecific ligand comprises an antibody or antibody fragment.

10 -11. (Cancelled)

12. (Previously Presented) The method according to claim 1, wherein said therapeutic nucleic acid sequences comprise a suicide gene.

13. (Previously Presented) The method according to claim 1, wherein said therapeutic nucleic acid sequences comprise a normal counterpart of a gene that expresses a protein that functions abnormally or is present in abnormal levels in said mammalian cells.

14. (Previously presented) The method according to claim 1, wherein said mammalian cells are in vitro.

15. (Previously presented) The method according to claim 1, wherein said mammalian cells are in vivo.

16. (Previously Presented) The method according to claim 1, wherein said therapeutic nucleic acid sequences each is contained on a plasmid comprised of multiple nucleic acid sequences.

17. (Previously presented) The method according to claim 16, wherein said plasmid comprises a regulatory element.

18. (Previously presented) The method according to claim 16, wherein said plasmid comprises a reporter element.

19 - 35. (Cancelled)

36. (Previously presented) The method according to claim 1, wherein at least some of said minicells each contains at least 11 therapeutic nucleic acid sequences.

37. (Previously presented) The method according to claim 1, wherein at least some of said minicells each contains at least 60 therapeutic nucleic acid sequences.

38. (Previously presented) The method according to claim 1, wherein said mammalian cell surface receptor is overexpressed on the cell surface of said non-phagocytic mammalian cells.

39. (New) The method according to claim 1, wherein the contact between said bispecific ligands and said minicells causes said bispecific ligands to be attached to said minicells.

40. (New) The method according to claim 3, wherein the contact between said bispecific ligands and said minicells causes said bispecific ligands to be attached to said minicells.